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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/701,246	11/04/2003	Ming Yeh	7268U-240CPA	6090
2292	7590	04/17/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			MAI, ANH T	
			ART UNIT	PAPER NUMBER
			2832	

DATE MAILED: 04/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/701,246

Applicant(s)

YEH ET AL.

Examiner

Anh T. Mai

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-12, 14, 15 and 17-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 14-15, 17, 19-28 is/are rejected.
- 7) ☒ Claim(s) 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 10-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. There is no antecedent basis for "core module" in claim 10.

### *Claim Objections*

2. Claim 18 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The dependency of the claim appears to be incorrect, please review and correct accordingly.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

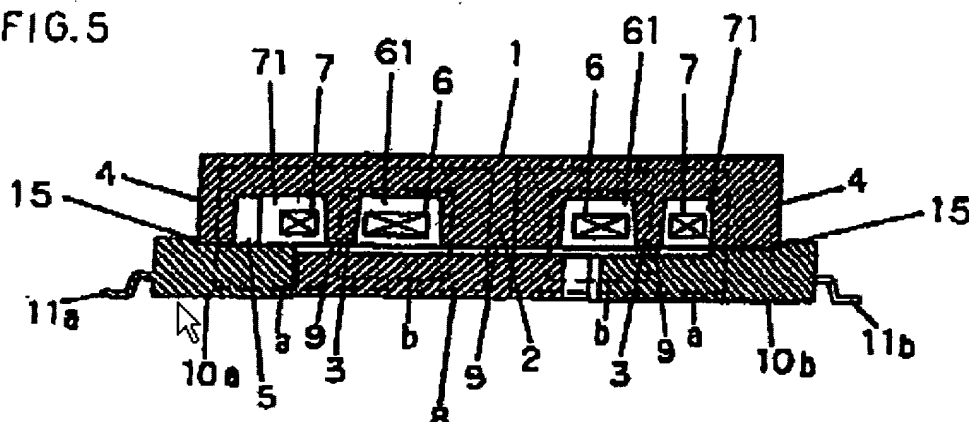
only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 10-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Fushimi.

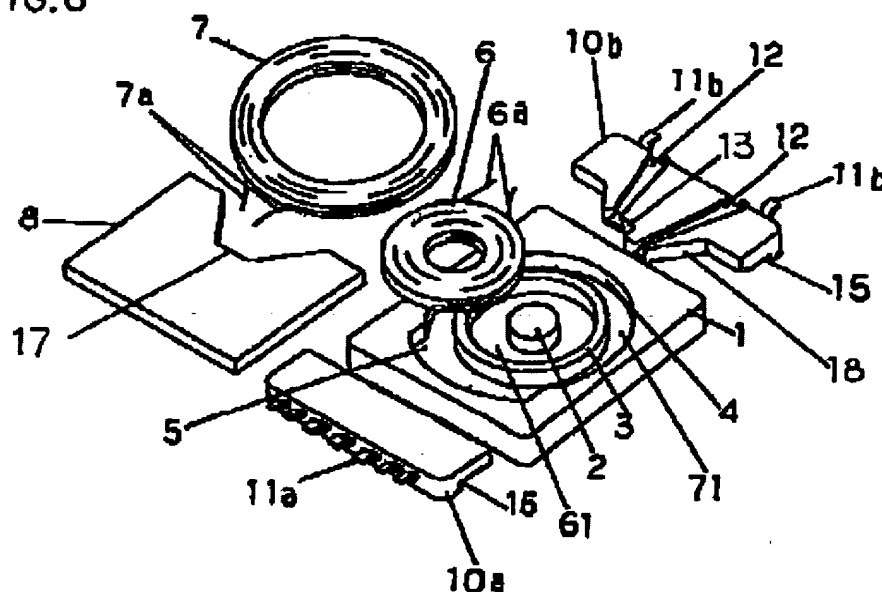
**Fushimi discloses:**

- a core 1;
  - first coil module 6 disposed on the core via center leg 2 and
  - second coil module arrange around the first coil module on a substantially same plane
- [figures 5-8].

FIG. 5



**FIG. 6**



*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

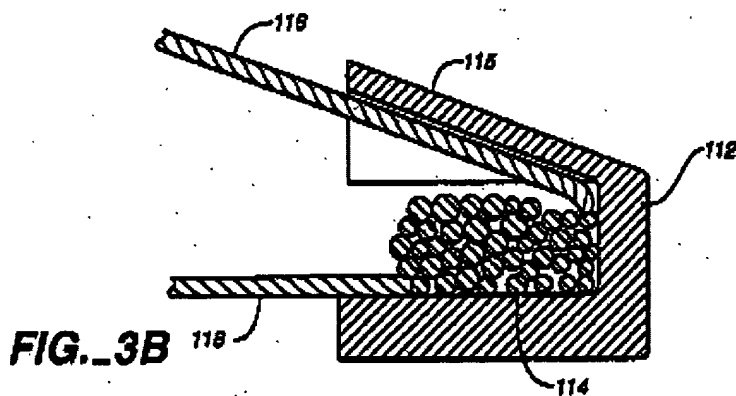
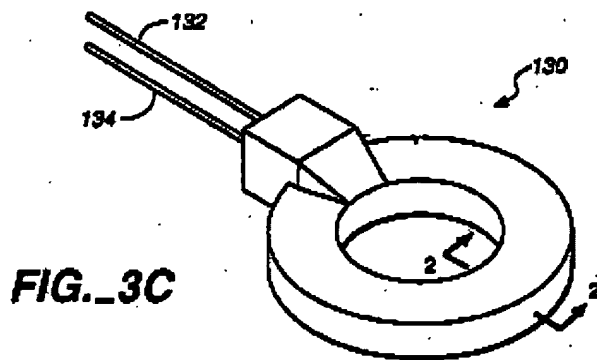
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-3, 5-6, 9, 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith [5175525].

Smith discloses:

- a core 214, 242;
- a coil module 220 of primary winding 130, each having a predetermined loop number of coils 114 and an encapsulator [insulating material] for wholly encapsulating for form coil module [col 5, lines 1-5 and fig 3C]
- secondary winding 230 is stacked below the primary winding and surrounding the core.

Smith discloses the claimed invention except for the encapsulated secondary coil as of the primary coil. It would have been obvious to have secondary winding having encapsulate structure as of the primary coil where in the coil is wholly encapsulated by the insulating material to reduce conduction loss and increase thermal dissipation as shown in col 4, lines 38-40. [col 7, lines 35-40; figure 5, 3B-D].

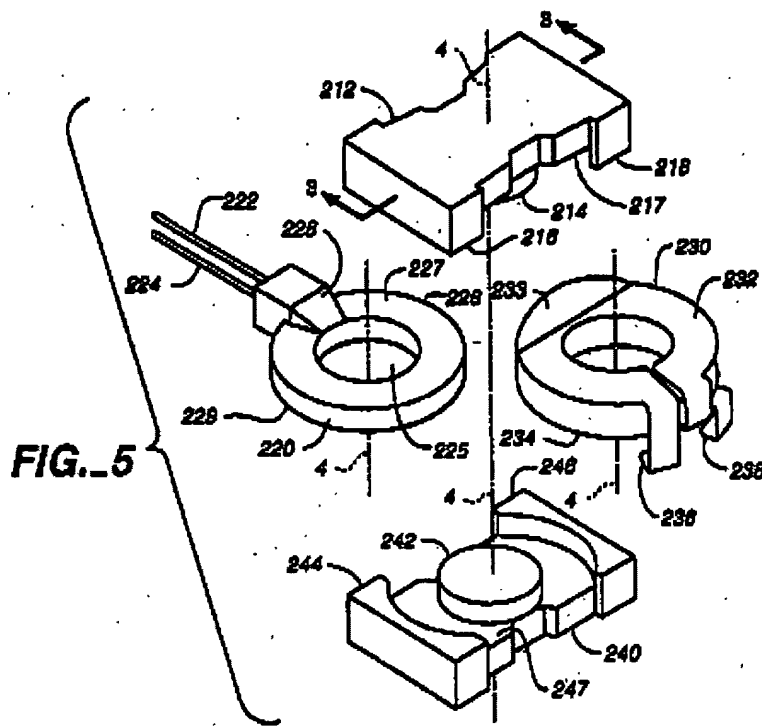


With respect to claims 2-3, Smith discloses the coils of each module are of a coil-shape portion of conductive wire of at least one conductive strip.

With respect to claim 5-6, Smith discloses the stacked coils are independent coils as shown in figure 5.

With respect to claim 9, Smith discloses the coils are separated by encapsulator [figure 5]

Claims 20-24 are rejected for reciting method/step derived from the structure of claim 1 which is rejected above.



6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith'525 in view of Fushimi.

Smith'525 discloses the invention as claimed as cited above except for the coils are disposed in a substantially same plane. Fushimi discloses the coils 7 and 6 are arranged in same plane about the core 1 by center core 2 as shown in figures 7 and 5. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to arrange the coils as taught by Fushimi to the coils transformer coils as disclosed by Smith'525. The motivation would have been to protect magnetic flux from leaking to the outside [col 6, lines 47-50]. Therefore, it would have been obvious to combine Fushimi with Smith'525.

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7. Claims 7, 19, 26, 27-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith [6087922] in view of Smith [5175525]; Smith'922 in view of Smith'525.

Smith'922 discloses:

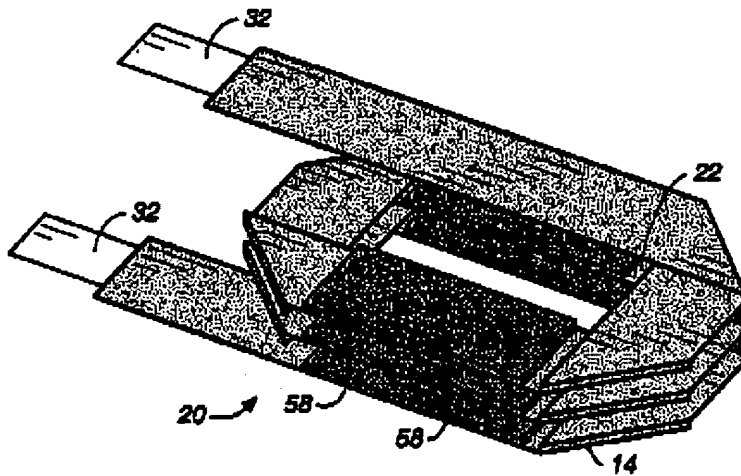
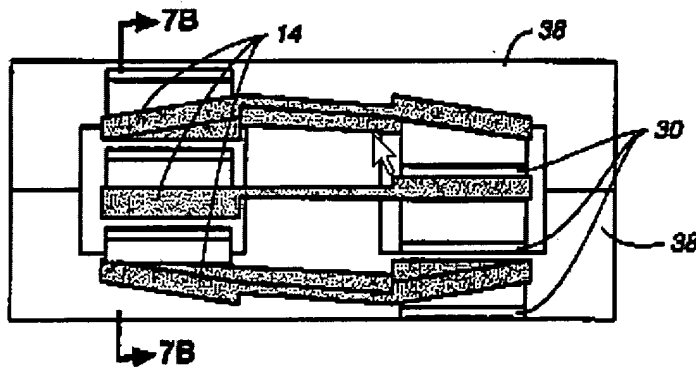
- a conductive strip having a plurality of coil portions 12 which are folded as a stack of coils 20;
- at least one insulating spacer 58 between two adjacent folded coil portion as shown in figures 7A, 8;

Smith'922 discloses the invention as claimed as cited above except for encapsulator encapsulating the coils to form the coil module. Smith'525 discloses a coil module 220 of primary winding 130, each having a predetermined loop number of coils 114 and an encapsulator [insulating material] for wholly encapsulating for form coil module [col 5, lines 1-5 and fig 3C]. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use encapsulator of insulating material as taught by Smith'525 to encapsulate the winding as disclosed by Smith'922. The motivation would have been to reduce the conduction loss and increase thermal dissipation [col 4, lines 38-40]. Therefore, it would have been obvious to combine Smith'922 with Smith'525.

With respect to claim 7, Smith'922 discloses the insulating material of heat shrink material as recited in claim 18 [heat conductive material].

Claims 26-27 are rejected for reciting method/step derived from the structure of claims 19, 21 which are rejected above.



**FIG. 8****FIG. 7A**

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith'922 in view of Smith'525 as applied in claim 7, and further in view of Fushimi.

Smith'922 in view of Smith'525 discloses the invention as claimed as cited above except the coil module are arranged in same plane. Fushimi discloses the coils 7 and 6 are arranged in same plane about the core 1 by center core 2 as shown in figures 7 and 5. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to arrange the coils as taught by Fushimi to the coils transformer coils as disclosed by Smith'525 in view of Smith'922. The motivation would have been to protect magnetic flux from leaking to the outside [col 6, lines 47-

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50]. Therefore, it would have been obvious to combine Fushimi with Smith'525 in view of Smith'922.

9. Claims 14-15, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fushimi in view of Smith'525.

Fushimi discloses the invention as claimed as cited above except for the coils of coil module are arranged in a stack of coils. Smith'525 discloses a coil module 220 of primary winding 130, and secondary winding 230 arranged in stack fashion as shown in figure 5. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to arrange the coils as taught by Smith'525 to the coils transformer coils as disclosed by Fushimi. The motivation would have been to provide different configuration of winding arrangement for the transformer. Therefore, it would have been obvious to combine Fushimi in view of Smith'525.

10. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Smith'525 in view of Smith'922.

Smith'525 discloses the invention as claimed as cited above except for conductive strip is folded to form the coils in each module. Smith'922 discloses a conductive strip having a plurality of coil portions 12 which are folded as a stack of coils 20 as shown in figures 7A, 8.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use coil of folded conductive strip as taught by Smith'922 to the winding as disclosed by Smith'525. The motivation would have been to provide interleave primary and secondary windings for a low profile transformer with reduced eddy current [ col 6, lines 27-31].

Therefore, it would have been obvious to combine Smith'922 to Smith'525.

*Response to Arguments*

11. Applicant's arguments with respect to claims 1-12, 14-28 have been considered but are moot in view of the new ground(s) of rejection.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

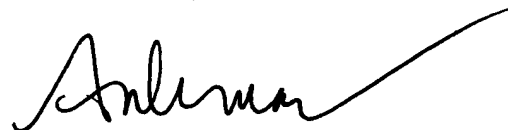
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh T. Mai whose telephone number is 571-272-1995. The examiner can normally be reached on 5/4/9 Schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on 571-272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read 'Anh Mai', with a long, sweeping horizontal stroke extending to the right.

**ANH MAI**  
**PRIMARY EXAMINER**